

# Recent Advancements in Industrial Instrumentation and Signal Processing Techniques (RAIS, 2020)

March 23-27, 2020



Organized by

Mechanical Engineering Discipline

PDPM-Indian Institute of Information  
Technology, Design & Manufacturing,  
Jabalpur - 482005, India

## Course objective

Industrial instrumentation and signal processing techniques involve measurement and post processing of signals acquired from machinery using sensors. Aim of this course is to provide the participants an insight into various aspects of the applications of sensors and instrumentation in measurement and analysis of real world measurement systems. Further, remote access of data acquisition in manufacturing process and its real time control through hands on experience using Virtual Instrumentation is also focused in this short term course. This course provides a forum for faculty, leaders in industry and academia to formulate the long term research goals in the area of Instrumentation techniques which are used in industry/research laboratory/academic institutes to enhance the knowledge.

## Intended Participants

### (Who can attend?)

The course is designed for people from academia, R & D institutes and industry working in the field of measurement techniques, condition monitoring, sensors, data acquisition system for various industrial applications, vibration devices, sound signals and signal processing techniques etc. The course is equally suited for professionals and graduate students desirous of working in the area of application of signal processing, mechanical and electrical measuring systems.

**QIP Candidates:** The teachers of the AICTE approved Engineering Colleges are eligible under this scheme. Faculty members from the streams of Mechanical, Electrical, and Electronics & Communication Engineering can apply under this program. The seats are limited, which would be filled on first come first serve basis and the candidate's field of research interest.

## Course Contents

- Introduction to Measurements and its techniques
- Material Deposition Process in industrial applications
- Measurement and analysis of process parameters in machining
- Advanced measurement techniques using sensors (Industry Real world problem)
- LabVIEW programming and its applications for processing machinery signals (induction motors, gears and bearings)- Practical session
- Signal Processing techniques using MATLAB – Practical session
- Temperature measurements- Practical session using LabVIEW

## Course coordinators

Dr. H. Chelladurai  
Dr. M. Amarnath  
Dr. Anil Kumar

## Invited Talk

Prof N.S.Vyas, IIT Kanpur  
Prof J.Ramkumar, IIT Kanpur  
Dr T Murugan, CMRI, Durgapur

## Application Form

Short Course on **Recent Advancements in Industrial Instrumentation and Signal Processing Techniques (RAIS, 2020)**  
(March 23-27, 2020)

Name:-----  
Title/Position:-----  
Organization:-----  
Sex: Male/Female----- (for accommodation)  
Mailing Address -----  
Email:-----  
Phone(s):-----  
Areas of interest:-----  
Accommodation Required: Yes / No  
Details of Fee (Demand Draft / Online): DD No. /  
Trans. ref. no.----- Dated:-----  
Amount:-----Bank:----- Date:

Participant Signature

Forwarded by Head of Institution:

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## Course fee

*FROM FEES*

- 1) Students Rs. 500/- (nonrefundable)
- 2) Academic Institutions Rs. 1,000/- (QIP candidates- refundable)

### 3) Industry/R&D Organizations Rs. 2,000/-

The decision regarding the acceptance for the course will be taken by the coordinator after receiving the duly completed application with appropriate demand draft/online payment before the mentioned deadline.

## Registration Procedure How to apply?

**QIP Candidates:** Application in the attached form should be sent to the coordinator with a caution deposit of Rs. 1000/ in the form of a demand draft favoring “*QIP PDPM IITDM, JABALPUR*”. The caution deposit fee will be refunded for all QIP participants who attend the course.

The QIP participants will be paid TA/DA by A/C three tier for attending the course. The DA will be paid as per rules, adjusted against boarding and lodging at IITDM Jabalpur.

Non-QIP participants can send the filled application form along with appropriate registration fee (mentioned below) using a Demand Draft in favor of “*QIP PDPM IITDM, JABALPUR*” to coordinator (Dr.H.Chelladurai). The registration fee can also be paid online. The details are given below:

Account Name: QIP IITDM Jabalpur  
Account Number: 50388395415  
Bank: Allahabad Bank of India  
Branch: MEGHAWAN IITDM Jabalpur,  
IFSC Code: ALLA0212433

## Deadlines

|   |                 |
|---|-----------------|
| Last date of receipt of registration form along with course fee | 10 March 2020   |
| Announcement of the shortlisted candidates                      | 11 March , 2020 |

## Travel & Accommodation

Limited accommodation is available in the institute’s hostels on twin sharing basis. A request for accommodation should be sent to the course coordinator via email after getting shortlisted. A confirmation email will be sent to the participants for accommodation in the institute hostels. Bus facility is available to and fro from railway station at different timings. All the registered participants will be provided free workshop kit, lunch and tea/coffee at the venue during the workshop. Accommodation for Student delegates would be arranged in the students hostel of IITDM Jabalpur depending upon the availability. All the industry and R&D participants have to pay the boarding and food charges as per IITDMJ norms.

## Contact details:

Dr. H. Chelladurai

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Madhya Pradesh, India  
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